COFFEE CLEANING MACHINERY.

Brazilian Exhibition

AT THE

"WORLD'S FAIR,"

MACHINERY HALL,

SECTION "F" SHAFT "F, 12"

CHICAGO, 1893.

EXHIBITORS:

Cia. Mechanica e Importadora de S. Paulo.

Lidgerwood Mfg. Co., Ltd., S. Paulo.

Cia. McHardy, Campinas.

Jonas de Moraes Aguiar,
ENGINEER.

COFFEE CLEANING MACHINERY.

The large consumption of coffee has lately increased its production in Brazil, and consequently new machinery for its preparation has there been invented and greatly improved.

In every producing and non-producing coffee country they have also been invented and improved, but Brazil has the honor of possessing the best ones known.

Every farmer whose harvest is above 100,000 pounds of coffee yearly, has generally on his farm a complete machinery arrangement, more or less similar to the one we now exhibit.

Coffee gathered and exposed to the air in proper drying yards, or taken to the drying machines lately invented, when dry, can also be taken to the bin of our machine, from which it passes by itself from one to the other, until it comes out, when it is collected, and assorted in sacks, ready for the market, without any loss or hand-help.

It is customary, among large coffee producing planters, to ferment (*despolpar*) their coffee, and when thus treated is indeed the most appreciated in the market.

Our machine is not only adapted to the cleaning of this, which is easier, but especially for coffee in berries (*cafe 'em cereja.*) It can prepare from 800 to 1,280 pounds of coffee per hour, and for this purpose it requires 8 Horse Power and two persons; the former to attend to the engine and coffee machinery itself, and the latter to collect, to weigh, to sew and to mark the sacks, thus ready for exportation.

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COMPANHIA
Mechanica e Importadora de Sao Paulo.

(PATENTED MACHINES.)

COFFEE CLEANER AND STONE SEPARATOR.

When the coffee is mixed with the stones it is necessary to separate it before it is taken to the Coffee Huller, and this can be done only in two ways: by washing in tanks and by machine.

This is a machine which saves the planters a large amount of work, and separates perfectly the stones from the coffee, leaving 95 per cent. clean and about 5 per cent. with the stones, that is to say, that instead of its being necessary to wash 320,000 pounds of coffee, this troublesome work is reduced to 16,000 pounds.

The Ventilator clears away all leaves, earth and pieces of wood.

"ENGELBERG" COFFEE HULLER.

This popular machine, well known for six years, leaves nothing to be desired, either to the perfection of its work or to the saving which it affords to the planter.

Advantages.

1. *It does not break a single grain of coffee.*
2. Does not leave an inferior quality of coffee or hull.
3. Does not dirty the coffee, all the machines have a strong ventilator near the entrance of the cylinder, which removes the earth.
4. It needs less space and less power than any other machine producing the same amount per hour.

5. The cost of preservation is insignificant. According to observations made by planters, the average cost of mending plates, bars, &c., is between 7 or 8 cents, 600rs (six hundred reis) for every 32,000 pounds of coffee cleaned or pressed.
6. It requires no skill on the part of the attendant; any intelligent person can from the first day understand and manage it, this being the most simple machine which exists.
7. The Huller reduces the shell almost to powder, and the Ventilator removes the greater part of this powder, so that any single Ventilator without sieves or shifting motion makes the ventilation perfect.

Capacity of Hullers.

Type	A.	from	3,200 to	6,400	lbs.	per	day.
"	B.	"	8,000 to	12,800	"	"	"
"	C.	"	9,600 to	19,200	"	"	"
"	D.	"	14,400 to	25,600	"	"	"

The great variety in the quantity produced by the Huller is owing to the fact that this machine shells coffee by friction or compression of one grain against the other, exactly the same process that the coffee undergoes in the old mortars and carts, and for this reason the quantity produced increases in proportion to the hardness and dryness of the coffee.

We call the attention of planters and engineers to the instructions given as to the choice of plates for hard and dry coffee:

Revolutions of Hullers per Minute.

						Pulley of Huller. M M
Type	A.	should	make	358	rev.	0,340x0,180
"	B.	"	"	300	"	0,340x0,180
"	C.	"	"	270	"	0,435x0,200
"	D.	"	"	210	"	0,530x0,220

Diameter of Driving Pulleys on gear (main shaft) for following Hullers, turning with 120 revolutions per minute:

	M M
For Type A., diameter -	1,015x0,180
" " B., " - -	0,855x0,180
" " C., " -	1,015x0,200
" " D., " - -	0,900x0,220

Change of Plates.

The plates by which the coffee leaves the machine ought to be changed for others of greater or lesser holes in the following cases:—

When the coffee is kept in the machine, without being able to come out, the plate which is in use should be changed for one of larger holes, until one or other grain of inferior coffee appears.

When, on the other hand, inferior coffee or shell is coming out, a plate with smaller holes must be substituted.

Rules to be More or Less Followed.

To clean dry or skinned coffee, Plates No. 1 or 2 should be employed, and for hard and matured coffee Plates No. 3 or 4.

For this reason each Huller is accompanied by four plates for ejecting coffee, with holes of different sizes. That marked No. 1 or (I) the smallest, and No. 4 or (IIII) the largest holes.

The numbers and marks are painted on one side of the same plates. N. B.—The Mixed Plates and those for extracting earth should be changed for or substituted by others of equal size only in case of breakage, also the only plate that should be changed each time the quality of coffee is altered, is the last, which is on the side of the exit of the coffee.

If burnished coffee is required the Plate No. 0 for large coffee should be applied.

Graduation of the Movable Bar.

Before covering the cylinder with the lid, adjust the movable bar parallel to the cylinder, leaving between the fixed and movable bars sufficient space to prevent the coffee being broken, say about 8 millimetres. (⅜ inches.)

If, after the cylinder is covered, it is necessary to graduate the movable bar:—1st, Slacken the screws which fix the lid of the cylinder to the frame. 2nd, Give an equal number of turns to the brass nuts which move the bar. (If care is not taken to slacken the screws of the cylinder lid, the latter seizes the bar, and the brass nuts being turned, there is a risk, that, as often happens, the glands which serve as support to the regulating screws, may be torn up.

THE CELEBRATED McHARDY DOUBLE VENTILATOR i. e. COFFEE AND HULL SEPARATOR.

This machine receives the coffee after it leaves the Huller and separates entirely all the hulls from the coffee.

The coffee carried by the elevator, falls into a hopper placed above this machine from where falls to the upper ventilator receiving in its downward course a strong current of air which removes and carries off the hulls, as they are lighter than the coffee.

The coffee after leaving the upper ventilator falls on to a series of sieves which receives another current of air from the lower ventilator, this entirely cleansing the coffee,

The machine is built so as to regulate the current of air according the weight of the coffee.

THE CATADOR AND SEPARADOR SHERRINGTON.

This machine does away with a great amount of work in erecting coffee machinery and requires less space than heretofore (it being the combination of two machines and elevators. It has given very practical results among users; it separates the coffee in all required grades and removes all the black and inferior grain. The operation requires no hand labor; one man places the empty and removes the full sacks ready for exportation, classified in all grades.

After the coffee is placed in the bin these 4 machines and elevators complete the operation without any hand-work.